Introduction

UNPACKING

AND

Congratulations on Your Purchase!

Your new high fidelity receiver is designed to deliver maximum enjoyment and years of trouble free service. Please take a few moments to read this manual thoroughly. It will explain the features and operation of your unit and help ensure a trouble free installation. Please unpack your unit carefully. We recommend that you save the carton and packing material. They will be helpful if you ever need to move your unit and may be required if you ever need to return it for service. Your unit is designed to be placed in a horizontal position and it is important to allow at least two inches of space behind your unit for adequate ventilation and cabling convenience.

To avoid damage, never place the unit near radiators, in front of heating vents, in direct sunlight, or in excessively humid or dusty locations. Connect your complementary components as illustrated in the following section.



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

Caution: Do not block ventilation openings or stack other equipment on the top.

FOR U.S.A

■Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

■FCC INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Caution regarding placement (Except for U.S.A and Canada)

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) equal to, or greater than, shown below.

Left and right panels: 5 cm

Rear panel: 5 cm Top panel: 20 cm

READ THIS BEFORE OPERATING

FOR U.S.A AND CANADA 120 V

FOR YOUR SAFETY

Units shipped to the U.S.A and Canada are designed for operation on 120 V AC only.

Safety precaution with use of a polarized AC plug. However, some products may be supplied with a nonpolarized plug.

CAUTION: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

FOR EUROPE AND AUSTRALIA 230 V/240 V

FOR YOUR SAFETY

Units shipped to Australia are designed for operation on 240 V AC only.

To ensure safe operation, the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth.

Improper extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

PAN-EUROPEAN UNIFIED VOLTAGE

All units are suitable for use on supplies 230~240 V AC.

FOR OTHER COUNTRIES 115 V/230 V

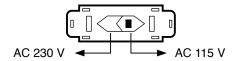
FOR YOUR SAFETY

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

This unit operates on 115/230 V AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

AC voltage selector switch



Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

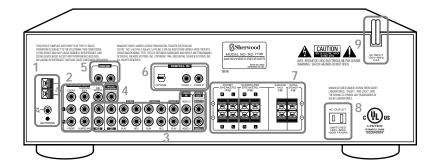
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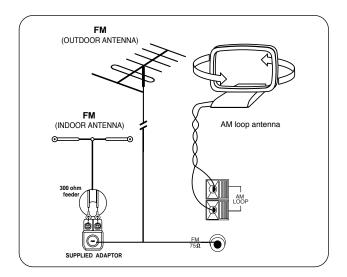
System Connections

- Do not plug the AC input cord into the wall AC outlet until all connections are completed.
- Be sure to observe the color coding when connecting audio and video cords.
- Make connections firmly and correctly. If not, it can cause loss of sound, noise or damage to the receiver.
- If the electricity fails or the AC input cord is left unplugged for more than 2 weeks, the memorized contents will be cleared. Should this happen, memorize them again.



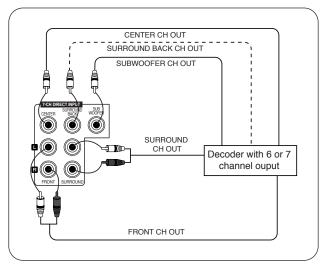
1. CONNECTING ANTENNAS

- Change the position of the FM indoor antenna until you get the best reception of your favorite FM stations
- A 75Ω outdoor FM antenna may be used to further improve the reception.
- Disconnect the indoor antenna before replacing it with the outdoor one.
- Place the AM loop antenna as far as possible from the receiver, TV set, speaker cords and the AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used in place of the AM loop antenna.



2. CONNECTING 7 CH DIRECT INPUTS

- Use these jacks to connect the corresponding analog outputs of a DVD player or external decoder, etc. that has 6 or 7 channel outputs.
- In case of 6 channel outputs, do not connect this SURROUND BACK input to your audio component. (For details, refer to the operating instructions of the component to be connected.)

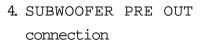


3. CONNECTING AUDIO/VIDEO COMPONENTS

 The VIDEO 2 jacks may also be connected to an additional video component such as a cable TV tuner, an LD player or satellite system.

Note:

 When Sherwood DVD player such as V-756, etc. is connected to the DIGI LINK jack for system control, you should connect the DVD player to the "VIDEO 2" jacks of this unit. Because if the PLAY button, etc. is pressed on the DVD player, the "VIDEO 2" is automatically selected as an input source on this unit and the playback, etc. starts.



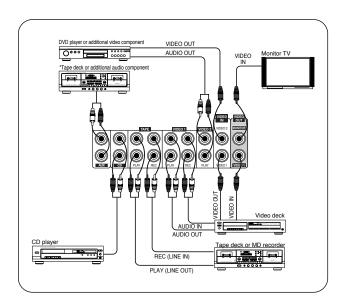
 To emphasize the deep bass sounds, connect a powered subwoofer.

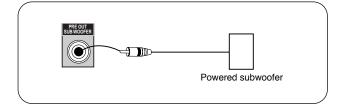
5. CONNECTING SYSTEM CONTROL

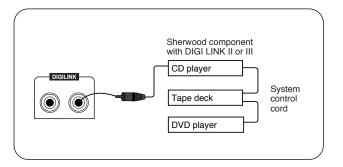
 Connect this jack to the DIGI LINK jack of the external Sherwood component that uses the DIGI LINK II or III remote control system.

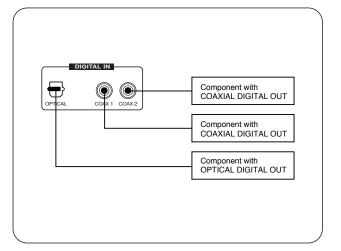
6. CONNECTING DIGITAL INS

- The COAXIAL or the OPTICAL DIGITAL OUTs of the components that are connected to CD and VIDEO 1~3 of this unit can be connected to these DIGITAL INs.
- A digital input should be connected to the components such as a CD player, LD player, DVD player, etc. capable of outputting DTS Digital Surround, Dolby Digital or PCM format digital signals.
- For details, refer to the operating instructions of the component connected.
- When making the COAXIAL DIGITAL connection, be sure to use a 75Ω COAXIAL cord, not a conventional AUDIO cord.







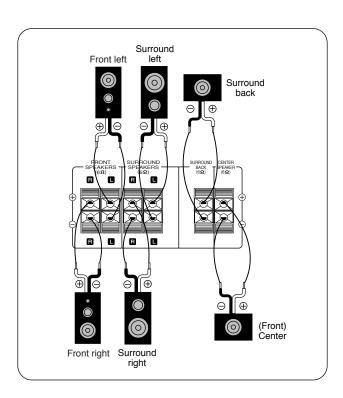


7. CONNECTING SPEAKERS

- Be sure to connect speakers firmly and correctly according to the channel(left and right) and the polarity(+ and -). If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connection is incorrect, the sound will be unnatural and lack bass.
- For installing the speakers, refer to "Speaker placement" on page 16.
- After installing the speakers, first adjust the speaker settings according to your environment and speaker layout. (For details, refer to "Adjusting the speaker settings" on page 17.)

Caution:

- Be sure to use the speakers with the impedance of 6 ohms or above.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or the speakers.



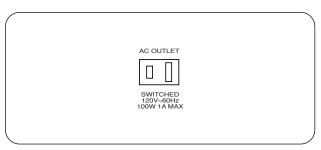
8. SWITCHED AC OUTLET

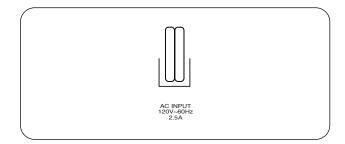
 This outlet is switched on(power-on mode) and off(standby mode) according to power control as follows(Maximum total capacity is 1 A, 100 W).

Standby mode - Switched AC outlet off Power-on mode - Switched AC outlet on

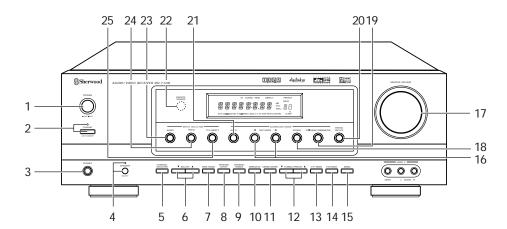
9. AC INPUT CORD

· Plug this cord into a wall AC outlet.





Front Panel Controls

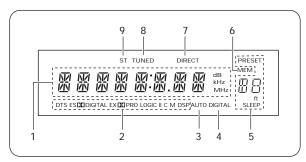


- 1. POWER switch
- 2. STANDBY button/indicator
- 3. HEADPHONE jack
- 4. SPEAKER button/indicator
- 5. CHANNEL SELECTOR button
- 6. ADJUST UP/DOWN(▲/▼) buttons
- 7. TONE MODE button
- 8. SPEAKER SETUP button
- 9. DYNAMIC RANGE button
- 10. CINEMA EQ button
- 11. MEMORY/ENTER button
- 12. TUNING/PRESET UP/DOWN($\triangle/\blacktriangledown$)

buttons

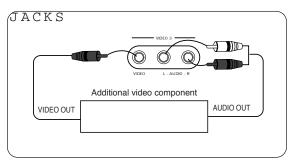
- 13. TUNING/PRESET MODE button
- 14. FM MODE button
- 15. BAND button
- 16. DSP MODE UP/DOWN(▶/◄) buttons
- 17. MASTER VOLUME control knob
- 18. STEREO button
- 19. PL II MUSIC PARAMETER button
- 20. DIGITAL INPUTS button
- 21. AUTO button
- 22. Remote sensor
- 23. AUDIO input selector button
- 24. VIDEO input selector button
- 25. 7 CH DIRECT button

FLUORESCENT DISPLAY



- Input, frequency, volume level, operating information, etc.
- 2. Surround mode indicators
- 3. AUTO indicator
- 4. DIGITAL input signal indicator
- 5. PRESET number, SLEEP time, Speaker distance display
- 6. MEMORY indicator
- 7. DIRECT indicator
- 8. TUNED indicator
- 9. STEREO indicator

VIDEO 3 VIDEO/AUDIO INPUT



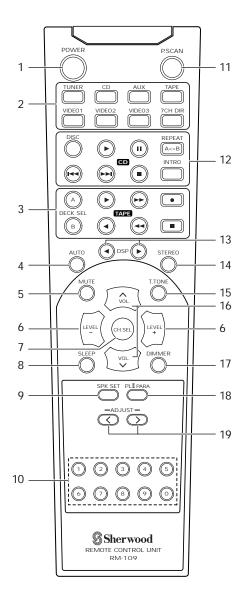
• The VIDEO 3 jacks may be also connected to an additional video component such as a camcorder, a LD

DIGI LINK III System Remote Controls

- You can remotely control not only this receiver but also Sherwood compatible components bearing the DIGI LINK II or III logo.
- For system remote control operation, first make the DIGI LINK connections.
- In the DIGI LINK III remote control system, if pressing PLAY, etc. on CD player or tape deck, CD or TAPE is selected automatically without selecting the input source and then PLAY, etc. starts.

Notes:

- Some functions for a CD player or tape deck may not be available.
- For details about functions, refer to the operating instructions of each component.

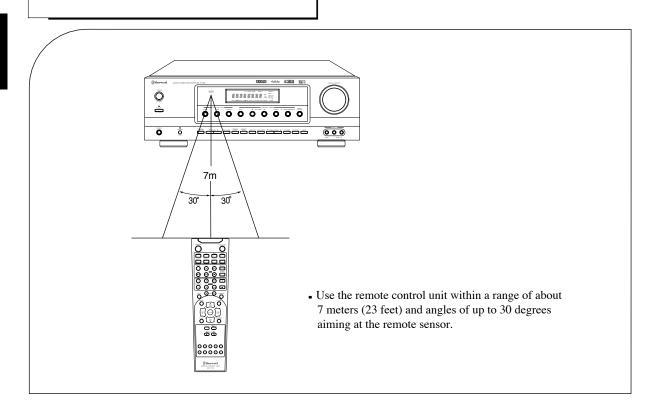


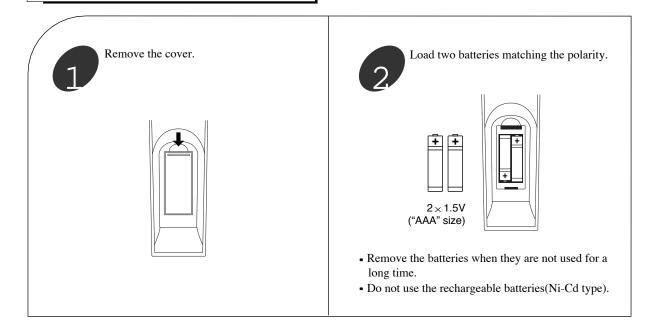
- 1. POWER button
- Input selector buttons
 In the standby mode, when pressing an input selector button, the unit is turned on automatically and the desired input source is selected.
- 3. TAPE deck section

 DECK SELECTOR A, B- for selecting deck A or B

 ◀,▶ to begin reverse or forward side

 playback.
- \blacktriangleleft , \blacktriangleright to wind up the tape reversely or forwardly.
 - - for recording.
 - \blacksquare to stop playback or recording.
- 4. AUTO button
- 5. MUTE button
- 6. CHANNEL LEVEL UP/DOWN(+/-) buttons
- 7. CHANNEL SELECTOR button
- 8. SLEEP button
- 9. SPEAKER SETUP button
- 10. NUMERIC(1~0) buttons
- 11. PRESET SCAN button
- 12. CD player section
 - DISC for disc selection (CD changer only)
 - ▶ to begin play
 - II to pause play
 - REPEAT A< >B to play a specific part repeatedly
 - \bowtie , \bowtie to skipping backward or forward
 - to stop play
 - INTRO to preview each track only for 10
- 13. DSP MODE UP/DOWN(►/◄) buttons
- 14. STEREO button





Operations

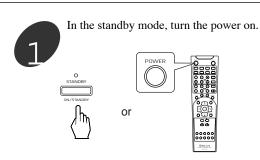
LISTENING TO A PROGRAM

Before operation

• Enter the standby mode.



- The STANDBY indicator lights up.
 This means that the receiver is not disconnected from the AC mains and a small amount of current is retained to support the memorized contents and operation readiness.
- To switch the power off, push the POWER switch again.
- Then the power is cut off and the STANDBY indicator goes off.



- Each time the STANDBY button on the front panel or the POWER button on the remote control is pressed, the receiver is turned on to enter the operating mode or off to enter the standby mode.
- In the standby mode, if the INPUT SELECTOR button is pressed, the receiver is turned on automatically and the desired input is selected.



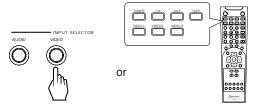
Switch the speakers on.



- Then the SPEAKER indicator lights up and the sound can be heard from the speakers connected to the speaker terminals.
- When using the headphone for private listening, press the SPEAKER button again to switch the speakers off.



Select the desired input source.



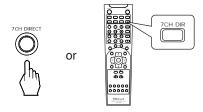
• Each time the "AUDIO" button is pressed, the input source changes as follows;

$$\rightarrow$$
 TUNER \rightarrow CD \rightarrow TAPE \rightarrow AUX $-$ (frequency display)

 Each time the "VIDEO" button is pressed, the input source changes as follows;

$$\rightarrow$$
 VIDEO 1 \rightarrow VIDEO 2 \rightarrow VIDEO 3 $-$

■When selecting the 7 CH DIRECT as desired,



- "7-DIRECT" is displayed and the 7 or 6 separate analog signals from the component connected to this input can be controlled only by tone(bass, treble) and volume depending on the surround back speaker setting.
- Press the 7 CH DIRECT button or select the desired input source to cancel the 7 CH direct function.
- These analog signals can be heard only, not recorded.

When CD, VIDEO 1~3 is selected as an input source



Select the digital or analog input connected as desired.



• Each time this button is pressed, the corresponding input is selected as follows;

$$\rightarrow$$
 A(nalog) \rightarrow c(oaxial) 1 \rightarrow c(oaxial) 2 \rightarrow o(ptical) 1 \leftarrow

• To listen to a DTS or Dolby Digital program source in the 2-CH downmix mode, in the stereo mode, the corresponding digital input should be selected. (For details, refer to "Downmixing into 2 front channels" on page 22.)

■Notes:

- When the selected optical or coaxial digital input is not connected, the "DIGITAL" indicator flickers, meaning no sound. (Refer to "ENJOYING SURROUND SOUND" on page 19.)
- The sound from the component connected to the selected digital input can be heard regardless of the selected input source.



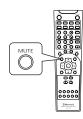
To compensate for edgy or shrill movie sound tracks.



- Then "C-EQ OFF" is scrolled.
- Press it again to work, the "C-EQ ON" is scrolled.
- When 96 kHz PCM(2 CH stereo) signals are input, the cinema EQ function does not work.



To mute the sound.



- "MUTE" will flicker.
- To resume the previous sound level, press it again.



Operate the selected component for playback.

• When playing back the program sources with surround sound, refer to "ENJOYING SURROUND SOUND" on page 19.



To listen with the headphones.



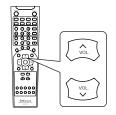
- Ensure that the SPEAKER button is set to off.
- When listening to a DTS or Dolby Digital program source, if the headphones are plugged and the SPEAKER button is set to off, it enters the 2-CH downmix mode automatically. (For details, refer to "Downmixing into 2 front channels" on page 22.)



Adjust the (overall) volume.



or



Adjusting the tone(bass and treble)



Enter the tone mode.



 Each time this button is pressed, the corresponding tone mode is selected and shown for several seconds as follows:

$$\rightarrow$$
 BASS \rightarrow TRBL(treble) \rightarrow TONE ON \neg

• When the tone mode is off, "TONE OFF" is shown.



At the desired tone mode, adjust the tone as desired.



 At "TONE ON" mode, you can select "TONE OFF" mode and vice versa.

TONE ON: When adjusting the tone for your taste.

("DIRECT" indicator goes off.)

TONE OFF: When listening to a program source without the tone effect.

("DIRECT" indicator lights up.)

• In general, we recommend the bass and the treble to be set to 0(flat) level.

■ Notes:

- If the tone display disappears, start from the step 10 again.
- Extreme settings at high volume may damage your speakers.
- When the digital signals from DTS or Dolby Digital program sources are input in available surround mode or the 7 CH DIRECT is selected as an input source, you cannot adjust the tone and can hear a program source without the tone effect.

SURROUND SOUND

 This receiver incorporates a sophisticated Digital Signal Processor that allows you to create optimum sound quality and sound atmosphere in your personal Home Theater.

Surround modes

■DTS Digital Surround

DTS Digital Surround(also called simply DTS) is a multichannel digital signal format which can handle higher data rates than Dolby Digital. Although both Dolby Digital and DTS are 5.1 channel formats, discs bearing the "

are generally thought to provide better sound quality due to the lower audio compression required.

It also provides wide dynamic range and separation, resulting in magnificent sound.

■DTS - ES Extended Surround™ (dts ==



This is a new multi channel digital signal format which greatly improves the 360- degree surround impression and space expression thanks to further expanded surround signals, offering high compatibility with the conventional DTS format.

In addition to the 5.1 channels, DTS-ES Extended Surround also offers the surround back (sometimes also referred to as "surround center") channel for surround playback with a total of 6.1 channels. DTS-ES Extended Surround includes two signal formats with different surround signal recording methods as follows:

- DTS-ES™ Discrete 6.1

Because the signals for 6.1 channels (including the surround back channel) are fully independent, it is possible to achieve a sense that the acoustic image are moving about freely among the background sounds surrounding the listener from 360 dearees.

Though maximum performance is achieved when sound tracks recorded with this system are played using a DTS -ES decoder, when played with a conventional DTS decoder, the surround back channel signals are automatically downmixed to the surround left and surround right channels so that none of the signal components are lost.

- DTS - ES™ Matrix 6.1

With this format, the additional surround back channel signals undergo matrix encoding and are input to the surround left and surround right channels beforehand. During playback, they are decoded to the surround left, surround right and surround back

Because the bit stream format is 100% compatible with conventional DTS signals, the effect of the DTS-ES Matrix 6.1 format can be achieved even with DTS 5.1- channel signal sources. Of course, it is possible to play DTS-ES Matrix 6.1 channel signal sources with a DTS 5.1 - channel decoder. When DTS-ES Discrete 6.1 or Matrix 6.1 sources are decoded with a DTS - ES decoder, the format is automatically detected upon decoding and the optimum surround mode is selected. However, some DTS - ES Matrix 6.1 sources may be detected as DTS sources. In this case, the DTS - ES Matrix mode should be selected manually to play these sources.

■DTS Neo: 6TM surround

This mode applies conventional 2-channel signals such as digital PCM or analog stereo signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1-channel surround playback. DTS Neo: 6 surround includes two modes for selecting the optimum decoding for the signal source.

DTS Neo : 6 Cinema

This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.

• DTS Neo : 6 Music

This mode is suited mainly for playing music. The front left and front right signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals from the center, surround left, surround right and surround back channels adds a natural sense of expansion to the sound field.

"DTS", "DTS-ES Extended Surround" and "Neo: 6" are trademarks of Digital Theater Systems, Inc.

■ Dolby Digital

Dolby Digital is the multi- channel digital signal format developed by Dolby Laboratories. Discs bearing the " includes the recording of up to 5.1 channels of digital signals, which can reproduce much better sound

quality, spatial expansion and dynamic range characteristics than the previous Dolby Surround effect.

■ Dolby Digital EX

This mode creates the back (sometimes also referred to as "surround center") signals from the surround left and right signals in Dolby Digital 5.1 channel source using a matrix decoder and provides 6.1 channel surround playback. For the best results, this mode should be selected during playback of sources(bearing the " DOLBY ") recorded in

Dolby Digital Surround EX. With this additional channel, you can experience more dynamic and realistic moving sound especially

When Dolby Digital EX sources are decoded with a Dolby Digital EX decoder, the format is automatically detected upon decoding and the Dolby Digital EX mode is selected. However, some Dolby Digital EX sources may be detected as Dolby Digital sources. In this case, the Dolby Digital EX mode should be selected manually to play these sources.

■ Dolby Pro Logic

Dolby Pro Logic is a specially encoded two channel surround format which consists of four channels (front left, center, front right and surround). Sources bearing the "DDDLBY SURROUND" provide the theater-like surround sound.

The surround channel is monaural, but is played through both surround speakers.

■ Dolby Pro Logic II surround

This mode applies conventional 2- channel signals such as digital PCM or analog stereo signals as well as Dolby Surround signals, etc. to surround processing to offer improvements over conventional Dolby Pro Logic circuits. Dolby Pro Logic II surround includes two modes as follows:

Dolby Pro Logic II Cinema

When enjoying movies, this mode allows you to further enhance the cinematic quality by adding processing that emphasizes the sounds of the action special effects.

Dolby Pro Logic II Music

When listening to music, this mode allows you to further enhance the sound quality by adding processing that emphasizes the musical effects.

■ Dolby Virtual

This mode employs sophisticated digital processing to create the illusion of "phantom" speakers, this mode allows you to experience surround sound effects from Dolby Digital, Dolby Surround or 2-channel (recorded in digital PCM or analog stereo) sources, through just a single pair of front speakers.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

 When using the 7 CH DIRECT INPUTs to playback the sound from an additional multichannel decoder for surround sound, you can enjoy the corresponding surround sound, too. For details, refer to the operating instructions of the component to be connected.

The following modes apply conventional 2-channel signals such as digital PCM or analog stereo signals to high performance Digital Signal Processor to recreate sound fields artificially. Select one of the three provided surround modes according to the program source you want to play.

■Theater

This mode provides the effect of being in a movie theater when watching a movie.

■Hall

This mode provides the ambience of a concert hall for classical music sources such as orchestral, chamber music or an instrumental solo.

■Matrix

This mode reproduces a delayed signals from the surround channels to emphasize the sense of expansion for music sources.

For your reference, the sound from each channel can be reproduced according to the surround modes as follows:

Channels	FRONT L/R	(FRONT) CENTER	SURROUND L/R	SURROUND BACK (CENTER)	SUBWOOFER
DTS	0	0	0	_	0
DTS ES DISCRETE/MATRIX	0	0	0	0	0
DTS NEO:6 MOVIE/MUSIC	0	0	0	0	—(*)
DOLBY DIGITAL	0	0	0	_	0
DOLBY DIGITAL EX	0	0	0	0	0
DOLBY PRO LOGIC	0	0	0	_	—(*)
DOLBY PRO LOGIC II CINEMA/MUSIC	0	0	0	_	—(*)
DOLBY VIRTUAL	0	_	_	_	<u> </u>
MATRIX	0	0	0	0	—(*)
Other Surround	0	0	0	_	—(*)
STEREO	0	_	_	_	—(*)
7 CH DIRECT	0	0	0	0	0

[•] Depending on the speaker settings and the number of the encoded channels, the sound from the corresponding channels cannot be reproduced. (For details, refer to "Adjusting the speaker settings" on page 17.)

^{(*):} Depending on the speaker settings, the sound from the subwoofer channel may be reproduced.

Speaker placement

Ideal speaker placement varies depending on the size of your room and the wall coverings, etc. The typical example of speaker placement and recommendations are as follows:

■Front left and right speakers and center speaker

- Place the front speakers with their front surfaces as flush with TV or monitor screen as possible.
- Place the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Place each speaker so that sound is aimed at the location of the listener's ears when at the main listening position.

■Surround left and right speakers

 Place the surround speakers approximately 1 meter (40 inches) above the ear level of a seated listener on the direct left and right of them or slightly behind.

■Surround back speaker

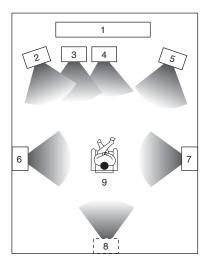
- Place the surround back speaker at the rear center facing the front at a slightly higher position (0 to 10 inches) than the surround speakers.
- We recommend installing the surround back speaker at a slightly downward facing angle. This effectively prevents the surround back channel signals from reflecting off the TV or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.

■Subwoofer

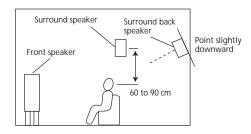
The subwoofer reproduces powerful deep bass sounds.
 Place a powered subwoofer anywhere in the front as desired.

■Notes :

- When using a conventional TV, to avoid interference with the TV picture, use only magnetically shielded front left and right and center speakers.
- To obtain the best surround effects, the speakers except the subwoofer should be full range speakers.



- 1 TV or screen
- 2. Front left speaker
- 3. Subwoofer
- 4. Center speaker
- 5. Front right speaker
- 6. Surround left speaker
- 7. Surround right speaker
- 8. Surround back speaker
- 9. Listening position



Adjusting the speaker settings

- After you have installed this unit and connected all the components, you should adjust the speaker settings for the optimum sound acoustics according to your environment and speaker layout.
- There are two kinds of speaker settings for speaker size and speaker distance.

■ Speaker size settings

Select the corresponding settings depending on the sizes of the connected speakers and whether the speakers are connected or not.

- Depending on your speaker type, you can select one of these following settings.
- Large: Select this when connecting speakers that can fully reproduce sounds below 80 Hz.
- Small: Select this when connecting speakers that cannot fully reproduce sounds below 80 Hz.

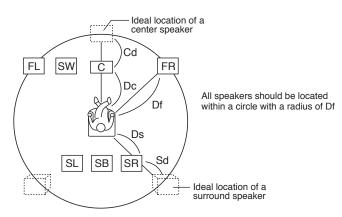
 When this is selected, sounds below 80 Hz are sent to the subwoofer or the front speakers depending on whether the subwoofer setting is Yes or No.
- None: Select this when no speakers are connected.
 When this is selected, sounds are sent to the front speakers.
- Yes / No : Select the desired depending on whether a subwoofer is connected or not.

• Depending or relationship between speakers, settings possible for each speaker are as follows:

Front L/R	Center	Surr. L/R	Surr. Back	Subwoofer
			Large	
		Large	Small	
			None	
	Large	0	Small	
		Small	None	
		None	None	
		Large	Large	
			Small	Yes
Large	Large		None	or
	Small	Small	Small	No
			None	
		None	None	
			Large	
Non			Large	Small
	None		None	
		Small	Small	
			None	
Small	Small	Small	Small	
		Smail	None	
		None	None	Yes
	None	Small	Small	
	None		None	

■ Speaker distance settings

When enjoying 5.1 channel surround playback with Dolby Digital and DTS sources, it is ideal that the center and surround speakers should be the same distance from the main listening position as the front speakers. By entering the distance differences between front and center speakers(Cd) and front and surround speakers(Sd), the delay times of center and surround speakers are automatically adjusted to create an ideal listening environment virtually as if the center and surround speakers were at their ideal locations respectively as follows:



Cd = Df - DcSd = Df - Ds

Cd : Center distance difference Sd : Surround distance difference Df : Front speaker distance Dc : Center speaker distance Ds : Surround speaker distance

Refer to the previous page and adjust the speaker settings

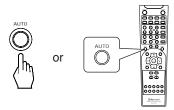
Note: When the SPEAKER button is set to off or the 7 CH DIRECT is selected as an input source, the speaker setting function cannot be available.

When selecting each setting mode	When adjusting the selected setting mode to the desired setting
Each time the SPEAKER SETUP button is pressed, the speaker setting mode changes in succession and is displayed for several seconds as follows. When the speaker setting mode disappears, press the SPEAKER SETUP button repeatedly to select the desired mode.	• Each time the ADJUST UP(▲/>) or DOWN(▼/<) button is pressed, one of the settings is selected and displayed for several seconds as follows.
When selecting the front-center-surround speaker setting mode. "FL - CL - SL"	You can select one of 11 different speaker settings. FL - CL - SL / FL - CL - SN / FL - CS - SL / FL - CN - SL / FL - CS - SN / FL - CN - SS / FS - CS - SS / FS - CS - SN / FS - CN - SS / FL - CS - SS / FL - CL - SS (F: Front, C: Center, S: Surround, L: Large, S: Small, N: Noe)
When selecting the surround back speaker setting mode. "SUR B - L"	
When selecting the subwoofer setting mode. "SUB W - Y"	$Y(es) \leftrightarrow N(o)$ • When the front speaker is set to "S", the subwoofer is automatically set to "Y".
When selecting the center distance difference mode. "CENTER 00 (ft)"	• You can adjust the distance difference within the range of $0 \sim 5$ feet in 1 feet intervals. 00 (ft) ~ 05 (ft)
When selecting the surround distance difference mode. "SURROUND 05 (ft)"	• You can adjust the distance difference within the range of $0 \sim 15$ feet in 1 feet intervals. 00 (ft) ~ 15 (ft)
 When selecting the Dolby Virtual delay time mode. "NARROW" This mode can work only in the Dolby Virtual mode. In the other surround modes, this setting is just displayed. 	NARROW: Relatively long distance for the main listening position to front speakers. WIDE: Relatively short distance.

ENJOYING SURROUND SOUND



Depending on the input digital signal format, select the desired decoding mode.



• Each time the AUTO button is pressed, the decoding mode changes as follows :

IN-AUTO: The input digital signal format(DTS, Dolby

Digital or PCM(2 channel stereo), etc.) used
by the selected digital input source is detected
automatically to perform the necessary
decoding process for optimum surround
modes.

IN-DTS: The DTS signal processing is performed only when DTS signals are input.

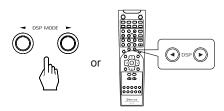
IN-PCM : The PCM signal processing is performed only when PCM signals are input.

■ Notes:

- Only when the digital input is selected as signal input for the input sources except TUNER, TAPE and AUX, the decoding mode can be selected.
- Noise may be generated at the beginning of playback and while searching during DTS playback in the IN-AUTO mode. In this case, try playing in the IN-DTS mode.

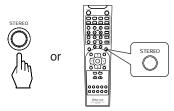


Select the desired surround mode.



- Each time the DSP MODE ◀ or ▶ button is pressed, the surround mode changes depending on the input signal format and the selected decoding mode as follows:
 - When Dolby Digital signals are input in the IN-AUTO mode, one of the following modes can be selected depending on the number of the recorded channels.
 - Dolby Digital 5.1 or Dolby Digital EX 6.1 channel sources:
 (DOLBY DIGITAL EX,) DOLBY DIGITAL and DOLBY VIRTUAL
 - (DOLBY DIGITAL EX.) DOLBY DIGITAL and DOLBY VIRTUAL Dolby Digital 2-channel sources :
 - (DOLBY DIGITAL EX,) DOLBY PRO LOGIC II CINEMA, DOLBY PRO LOGIC II MUSIC, DOLBY PRO LOGIC and DOLBY VIRTUAL
 - (): possible only when surround back speaker setting is not "N".
 - «When PCM(2 channel stereo) signals are input in the IN-AUTO or IN-PCM mode, one of the following modes can be selected.
 - DOLBY PRO LOGIC II CINEMA, DOLBY PRO LOGIC II MUSIC, DOLBY PRO LOGIC, DOLBY VIRTUAL, DTS NEO 6 CINEMA, DTS NEO 6 MUSIC, THEATER, HALL and MATRIX
- When the analog input is selected as signal input and analog stereo signals are input, you can select the desired of these above surround modes, too.
- However, when DTS signals are input in the IN-AUTO or IN-DTS mode, the corresponding DTS mode will be selected regardless of using the DSP MODE ◀ or ▶ button.
- Notes:
- When the selected decoding mode is not matched to the input signal format, the "DIGITAL" indicator flickers and no sound is heard. Therefore, be sure to select the required decoding mode and the available surround mode according to the input signal format.
- When the 7 CH DIRECT is selected as an input source, the decoding and surround modes cannot be selected.
- When the digital signals are not inputted, the desired surround mode cannot be selected.

■ To cancel the surround mode for stereo operation



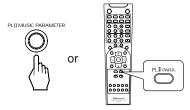
- Then the stereo mode is selected.
- ullet To cancel the stereo mode, select the desired surround mode with using the DSP MODE ullet or llet button.

Adjusting the Dolby Pro Logic II Music parameters

• When selecting the Dolby Pro Logic II Music mode, you can adjust the various surround parameters for optimum surround effect.



Press the PL II MUSIC PARAMETER button to select the desired parameter.



• Each time this button is pressed, the parameter changes and is displayed for several seconds as follows;

**Panorama mode("PANO", default value : OFF)

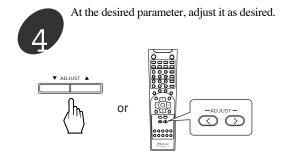
This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging. Select "OFF" or "ON".

«Center width control("C-WID", default value : 0)

This adjusts the center image so it may be heard only from the center speaker, only from the left/right speakers as a phantom image, or from all three front speakers to varying degrees. The control can be set in 8 steps from 0 to 7.

*Dimension control("DIMEN", default value : 0)

This gradually adjusts the soundfield either towards the front or towards the rear. The control can be set in 7 steps from -4 to +2.



• If the parameter display disappears, start from the step 3 again.

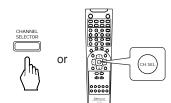


Repeat the above steps 3 and 4 to adjust other parameters.

Adjusting each channel level



Select the desired channel.



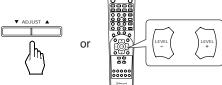
 Each time this button is pressed, the corresponding channel is selected and displayed for several seconds as follows:

$$\begin{array}{c} \rightarrow FL \rightarrow C \rightarrow FR \rightarrow SR \rightarrow SB \\ \text{Front Left} \qquad \text{Center} \qquad \text{Front Right} \qquad \text{Surround} \\ \text{Right} \qquad \text{Back} \\ \rightarrow DTS \ L \leftarrow DD \ L \qquad \leftarrow SW \leftarrow SL \leftarrow SU \\ \text{Dolby Digital LFE} \qquad \text{Subwoofer} \qquad \text{Surround} \\ \text{For DTS LFE} \end{array}$$

- You can adjust the LFE level for Dolby Digital or DTS program source that includes LFE signal.
- When it is in the stereo or Dolby Virtual mode or the speaker setting is "N", center, surround L/R, surround back or subwoofer channel will not be selected.
- When the SPEAKER button is set to off, only the front L/R channel can be selected.



Adjust the level of the selected channel as desired.



- The LFE level can be adjusted within the range of -10~0 dB and other channel levels within the range of -15~+15 dB.
- In general, we recommend the LFE level to be adjusted to 0 dB.(However, the recommended LFE level for some early DTS software is -10 dB.) If the recommended levels seem too high, lower the setting as necessary.
- If the channel display disappears, start from the step 6 again.



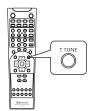
Repeat the above steps 6 and 7 to adjust each channel level.

Adjusting each channel level with test tone

- The volume level of each channel can be adjusted easily with the test tone function.
- Note: When the 7 CH DIRECT is selected as an input source or the SPEAKER button is set to off, the test tone function does not work.



Enter the test tone mode.



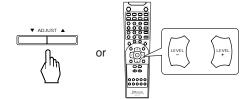
• The test tone will be heard from the speaker of each channel for 2 seconds as follows:

$$\underbrace{\longrightarrow FL \longrightarrow C \longrightarrow FR \longrightarrow SR \longrightarrow SB \longrightarrow SL}_{SW} \xrightarrow{\longleftarrow}$$

• When the speaker setting is "N", the test tone of the corresponding channel is not available.



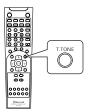
At each channel, adjust the level as desired until the sound level of each speaker is heard to be equally loud.



• You can select the desired channel and adjust its level with repeating the steps 6 and 7 in "Adjusting each channel level" procedure.

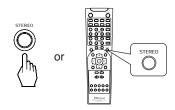


Cancel the test tone function.



Downmixing into 2 front channels

- Allows the multi channel DTS or Dolby Digital signal to be reproduced through only two speakers or through headphones.
- When the digital signals from the DTS or Dolby Digital program sources are input in available surround mode, press the STEREO button.



• "ST" indicator lights up and "2 CH DOWNMIX" is scrolled, meaning it enters the 2-CH downmix mode, and then the discrete multi-channels(except LFE) are mixed down into 2 front channels.

- To cancel the 2 CH downmix mode, select the desired surround mode with the DSP MODE

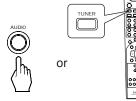
 or ► button
- When the playback of the source on the player is stopped, interrupted, etc., the 2 - CH downmix mode is not canceled even though "ST" and the DTS or Dolby Digital indicators go off.
- If headphones are plugged in and the SPEAKER button is set to off while the digital signals from the DTS or Dolby Digital program sources are being input, it will enter the 2-CH downmix mode automatically(but only the DTS or Dolby Digital indicator lights up still) and if the headphones are unplugged and the SPEAKER button is set to on in the 2-CH downmix mode, it will return to the previous mode.

LISTENING TO RADIO

Auto tuning

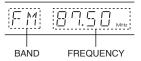


Select the tuner.



Select the desired band.





- Each time this button is pressed, the band is changed to FM or AM.
- When pressing the BAND button without selecting the TUNER, the tuner will be selected automatically.



Select the tuning mode.



- Each time this button is pressed, the mode changes as follows;
 - Tuning mode : "PRESET" goes off. ¬
 Preset mode : "PRESET" lights up. ←



Press the TUNING/PRESET UP(\blacktriangle) or DOWN(\blacktriangledown) button for more than 0.5 second.



- The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and "TUNED".
- If the station found is not the desired one, simply repeat this operation.
- Weak stations are skipped during auto tuning.

Manual tuning

- Manual tuning is useful when you already know the frequency of the desired station.
- Perform the steps 1 to 3 in "Auto tuning" procedure and press the TUNING/PRESET UP(▲) or DOWN(▼) button repeatedly until the right frequency has been reached.



Presetting radio stations

 You can store up to 30 preferred stations in the memory.



Tune in the desired station with auto or manual tuning.



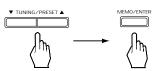
Press the MEMORY/ENTER button.



• "MEM" is flickering for 5 seconds.



Select the desired preset number $(1\sim30)$ and press the MEMORY/ENTER button.



 When using the NUMERIC buttons on the remote control.

For "30" : ①

- The station has now been stored in the memory.
- When using the NUMERIC buttons, the station is stored automatically without pressing the MEMORY/ENTER button.
- A stored frequency is erased from the memory by storing another frequency in its place.
- If "MEM" goes off, start again from the above step 2.



Repeat the above steps 1 to 3 to memorize other stations.

■MEMORY BACKUP FUNCTION

The following items, set before the receiver is turned off, are memorized.

- INPUT SELECTOR settings
- Surround mode settings
- Preset stations, etc.

Note: If the electricity fails or the AC input cord is disconnected for more than 2 weeks, they are all cleared. So you should memorize them again.

Tuning to preset stations



After selecting the tuner as an input source, select the preset mode.



• Then "PRESET" lights up.



Select the desired preset number.



• When using the NUMERIC buttons on the remote control.

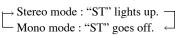
Examples) For "3" : \bigcirc within 2 seconds
For "15" : \bigcirc \bigcirc \bigcirc

For "30" : ①

 When selecting the desired preset number with the NUMERIC buttons, the desired preset station will be tuned to automatically without selecting the preset tuning mode.

Listening to FM stereo broadcasts

- While listening to FM broadcasts.
- Each time this button is pressed, the FM mode changes as follows;



 When FM stereo broadcasts are poor because of weak broadcast signals, select the FM mono mode to reduce the noise, then FM broadcasts are reproduced in monaural sound.

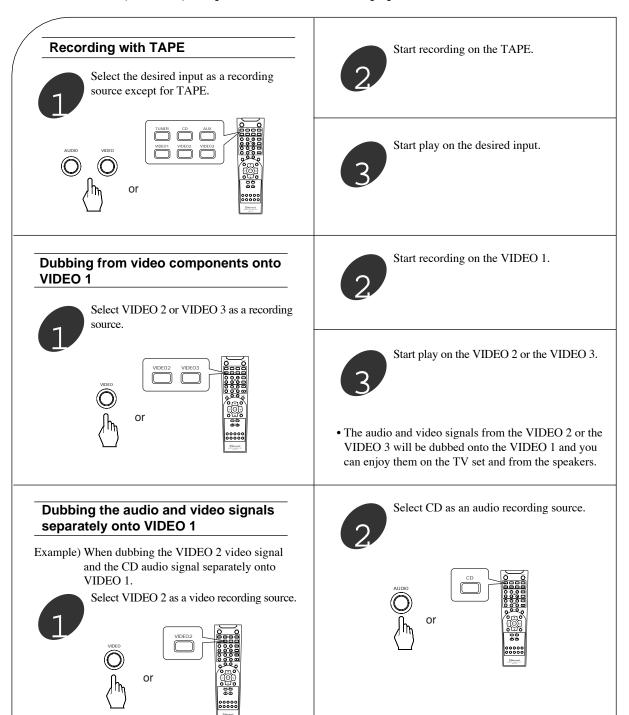
Scanning preset stations in sequence



- The receiver will start scanning the stations in the preset sequence and each station is received for 5 seconds.
- At the desired station, press this button again to stop scanning.

RECORDING

- The analog signals from the 7 CH DIRECT inputs as well as the digital signals from the coaxial or optical digital input can be heard but cannot be recorded.
- The volume and tone (bass, treble) settings have no effect on the recording signals.





Start recording on the VIDEO 1.



Start play on the VIDEO 2 and the CD respectively.

• The audio signal from the CD and the video signal from the VIDEO 2 will be dubbed and you can enjoy them on the TV set and from the speakers.

Note: Be sure to observe the order of the above steps 1 and 2.

OTHER FUNCTIONS

Compressing the dynamic range (Dolby Digital sources only)

- This function compresses the dynamic range of previously specified parts of the Dolby Digital sound track(with extremely high volume) to minimize the difference in volume between the specified and nonspecified parts.
- This makes it easy to hear all of the sound track when watching movies at night at low levels.
- When the digital signals from Dolby Digital program source are input in available surround mode.



• Each time this button is pressed, the mode changes and the display scrolls.

DYNR 0.0 : Off

DYNR 0.5 : Low compression

DYNR 1.0 : High compression

 In some Dolby Digital softwares, this function may not be available.

Operating the sleep timer

- The sleep timer allows the system to continue to operate for a specified period of time before automatically shutting off.
- To set the receiver to automatically turn off after the specified period of time.

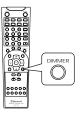


• Each time this button is pressed, the sleep time changes and "GOOD NIGHT" message scrolls.

$$\longrightarrow 10 \longrightarrow 20 \longrightarrow 30 \longrightarrow 60 \longrightarrow 90 \longrightarrow OFF$$
 Unit : minutes

- While operating the sleep timer, "SLEEP" lights up.
- When the sleep time is selected, all display panels of Sherwood components connected by the DIGI LINK III are dimly lit.

Adjusting the brightness of the fluorescent displays



 Each time this button is pressed, the brightness of all fluorescent displays of Sherwood components connected by the DIGI LINK III changes together as follows;

$$\rightarrow$$
 ON \rightarrow dimmer \rightarrow OFF $-$

 In the display OFF mode, pressing any button will restore the display ON mode.

Troubleshooting Guide

If a fault occurs, run through the table below before taking your receiver for repair.

If the fault persists, attempt to solve it by switching the receiver off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you attempt to repair the receiver yourself. This could void the warranty.

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	The AC input cord is disconnected. Poor connection at AC wall outlet or the outlet is inactive.	Connect the cord securely. Check the outlet using a lamp or another appliance.
No sound	The speaker cords are disconnected. The master volume is adjusted too low. The MUTE button on the remote control is pressed to ON. Speakers are not switched on. Incorrect selection of the input source. Incorrect connections between the components.	Check the speaker connections. Adjust the master volume. Press the MUTE button to cancel the muting effect. Press the SPEAKER button to ON. Select the desired input source correctly. Make connections correctly.
No sound from the surround speakers	Surround mode is switched off(stereo mode). Master volume and surround level are too low. A monaural source is used. Surround speaker setting is "N".	Select a surround mode. Adjust master volume and surround level. Select a stereo or surround source. Select the desired surround speaker setting.
No sound from the center speaker	Dolby Virtual, stereo mode, etc. is selected. Center speaker setting is "N". Master volume and center level are too low.	Select the desired surround. Select the desired center speaker setting. Adjust master volume and center level.
No sound from the surround back speaker	The input signal format or the current surround mode cannot support the 6.1 surround playback. Master volume and surround back level are too low. Surround back speaker setting is "N".	Under the proper situations, perform the 6.1 surround playback. Adjust master volume and surround back level. Select the desired surround back speaker setting.
Stations cannot be received	No antenna is connected. The desired station frequency is not tuned in. The antenna is in wrong position.	Connect an antenna. Tune in the desired station frequency. Move the antenna and retry tuning.
Preset stations cannot be received	An incorrect station frequency has been memorized. The memorized stations are cleared.	Memorize the correct station frequency. Memorize the stations again.
Poor FM reception	No antenna is connected. The antenna is not positioned for the best reception.	Connect an antenna. Change the position of the antenna.
Continuous hissing noise during FM reception, especially when a stereo broadcast is received.	Weak signals.	Change the position of the antenna. Install an outdoor antenna.
Continuous or intermittent hissing noise during AM reception, especially at night.	Noise is caused by motors, fluorescent lamps or lightning, etc.	Keep the receiver away from noise sources. Install an outdoor AM antenna.
Remote control unit does not operate.	Batteries are not loaded or exhausted. The remote sensor is obstructed.	Replace the batteries. Remove the obstacle.
Other Sherwood components do not react to remote control commands.	DIGI LINK connections are not made properly.	Make proper DIGI LINK connections.

Specifications

■AMPLIFIER SECTION	
• Power output, stereo mode, 6 Ω, THD 0.2 %, 40 Hz~20 kHz	$2 \times 100 \text{ W}$
• Total harmonic distortion, 6 Ω , 95 W, 1 kHz	
• Intermodulation distortion	
60 Hz : 7 kHz= 4 : 1 SMPTE, 6 Ω, 95 W	
• Input sensitivity, 47 kΩ Line (CD, TAPE, VIDEO)	200 mV
• Signal to noise ratio, IHF "A" weighted	
Line (CD, TAPE, VIDEO)	90 dB
Frequency response Line (CD, TAPE, VIDEO), 20 Hz~50 kHz	
• Output level TAPE REC, 2.2 kΩ	
Bass/Treble control, 100 Hz/10 kHz	
Surround mode, only channel driven	
Front power output, 6 Ω , 1 kHz, THD 0.7 $\%$	
Center power output, 6 Ω , 1 kHz, THD 0.7 %	
Surround power output, 6 Ω, 1 kHz, THD 0.7 %	
Surround back power output, 6 Ω , 1 kHz, THD 0.7 $\%$	110 W
■DIGITAL AUDIO SECTION	
Sampling frequency	
Digital input level	
Coaxial, 75 Ω	
Optical, 660 nm	-15~-21 dBm
■FM TUNER SECTION	
Tuning frequency range	87.5~108 MHz
• Usable sensitivity, THD 3%, S/N 30 dB	
• 50 dB quieting sensitivity, mono/stereo	
Signal to noise ratio, 65 dBf, mono/stereo	
Total harmonic distortion, 65 dBf,1 kHz, mono/stereo	
• Frequency response, 30 Hz~15 kHz	
Stereo separation, 1 kHz	
Capture ratio	
• IF rejection ratio	
■AM TUNER SECTION	
Tuning frequency range	520~1710 kHz
• Usable sensitivity	
Signal to noise ratio	
Selectivity	
■GENERAL	
Power supply	AC 120 V 60 Hz
Power consumption	
Switched AC outlet	
• Dimensions (W × H × D)	
• Weight (Net)	

Note: Design and specifications are subject to change without notice for improvements.